

REMARKS

It is well known in the art that an organic metal compound, when subjected to a plasma CVD treatment, e.g. glow discharge (see page 7 lines 25-35), decomposes or deassociates so that a metal compound deposits on a substrate placed in the vacuum chamber (see page 15, lines 3-8). In such a CVD process, the deposited metal compound will be an inorganic substance, such as a metal oxide, metal nitride or a metal sulfide, depending on the type of organic group in the precursor organic metal compound. In the case of example 1 in applicants' specification (page 18, lines 26-27), the deposited metal compound is silicon oxide.

Newly added claim 10 finds corresponding description at page 15 lines 8 and 9 and paragraph [0037] provides a description corresponding to new claims 11, 13 and 14.

The undersigned attorney hereby confirms the telephone election of group I, i.e. claims 1-8.

The rejection of claims 1-4 and 6 for anticipation by Nishinaka et al is respectfully traversed. As the Examiner notes, at column 2 lines 36-41 Nishinaka et al teach the treatment of a polyimide film with a solvent solution containing a titanium compound. However, nowhere do Nishinaka et al describe formation of a titanium containing layer, separate and apart from the polyimide film. On the contrary, as Nishinaka et al teach at column 11 lines 57-65, the titanium compound is incorporated into the polyimide film with its highest concentration at the surface area of the film. Thus, Nishinaka et al describe their invention as having the metal layer "laminated directly on the polyimide film". See, for example, column 3 lines 31-40. Since the metal layer is laminated directly on the polyimide film, Nishinaka et al expressly teach that there is no intervening layer which would meet the recitation of "a plasma CVD layer" in Applicants' claim 1. Further, no portion of the polyimide film containing titanium can be regarded as a CVD layer because a plasma CVD layer formed from an organic metal compound as a precursor cannot contain a polyimide. Thus, the process limitation of claim 1 serves to exclude any layer which cannot be formed by decomposition of an organic metal compound in plasma CVD and, therefore, excludes the titanium containing polyimide of Nishinaka et al. As stated in MPEP§2113, citing In re Garnero, 162 USPQ 221, at 223 (CCPA 1979):

The structure implied by the process steps should be considered when

assessing the patentability of product-by-process claims over the prior art especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing processing steps would be expected to impart distinctive structural characteristics to the final product." [Emphasis added]

Here, the process steps serve to limit the claimed structure to one including a discrete plasma CVD layer and to further limit that layer to a composition which can be obtained by decomposition of an organometallic compound. In both respects, claim 1 here serves to distinguish anything disclosed or suggested by Nishinaka et al.

The rejection of claims 1-4 and 7 for anticipation by Yamamoto et al is likewise traversed. Yamamoto et al disclose casting a polyamic solution, which preferably contains an organic phosphorous compound and a filler (column 5, lines 9-19) to form a self-supporting film which is a precursor of a polyimide film. The Examiner appears to be of the view that the organic phosphorous compound is an organic metal compound as recited in Applicants' claims. Similar to Nishinaka et al, the phosphorous compound of Yamamoto et al is contained in the polyimide film. In Yamamoto et al there is no discrete phosphorous containing layer, separate and apart from the polyimide film, i.e. a structure as would necessarily result from the formation of a film by plasma CVD decomposition of an organometallic compound.

Applicants acknowledge that the surface of the film of Yamamoto et al is coated with an aminosilane. However, the aminosilane coupling agent remains as is or reacts with the polyimide when the precursor polyimide film is imidized. Thus, the plasma CVD layer of the present invention is distinguished from the coating of the aminosilane coupling agent in that, in the latter, the organic moiety of the aminosilane coupling agent remains undecomposed, whereas in the present invention the organic metal compound is decomposed to necessarily form an inorganic metal compound as a discrete layer.

The rejection of claims 1-4 over Ozawa et al is likewise traversed. Similar to Nishinaka et al, the phosphorous compound of Ozawa et al is contained in the polyimide and decomposition of an organometallic compound cannot give anything resembling the "fusible polyimide layer" of Ozawa et al.

Finally, the rejection of claims 1-8 for obviousness over Nishinaka et al or Yamamoto et al or Ozawa et al is traversed. As noted above, none of the three

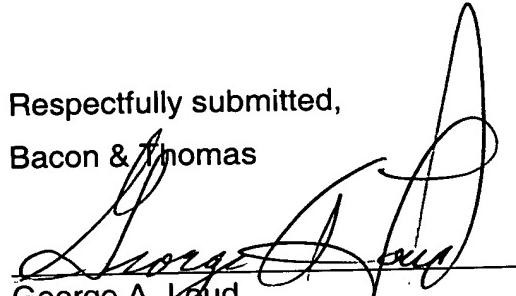
references in any way suggests a discrete layer which would have a composition in any way resembling that formed by plasma CVD decomposition of an organometallic compound.

In conclusion, it is respectfully requested that the Examiner reconsider the rejections of record with a view toward allowance of the claims as amended.

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